



**Broad Agency Announcement**  
**Coal To Liquids (CTL)**  
**STRATEGIC TECHNOLOGY OFFICE**  
**DARPA-BAA-08-58**

September 4, 2008

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## Part One: Overview Information

- **Federal Agency Name** – Defense Advanced Research Projects Agency (DARPA), Strategic Technology Office (STO)
- **Funding Opportunity Title** – Coal To Liquids
- **Announcement Type** – Initial announcement
- **Funding Opportunity Number** – Broad Agency Announcement DARPA-BAA-08-58
- **Catalog of Federal Domestic Assistance Numbers (CFDA)**– 12.910 Research and Technology Development
  
- **Dates**
  - Proposal Abstract are due by 4:00 pm ET, September 24, 2008
  - Initial Full Proposals are due by 4:00 pm ET, November 12, 2008
  - BAA closing date is one year from date of publication

**Description of the funding opportunity:** DARPA is soliciting innovative research proposals in the area of coal utilization as an energy resource. In particular DARPA is interested in processes that will ultimately enable the United States to economically extract energy from its coal resources in the form of liquid fuels using coal to liquid conversion technologies that are environmentally friendly and cost competitive with petroleum based fuels.

The funding opportunity is limited to one Government fiscal years worth of funding. The combined maximum amount of all awards will not exceed \$4,560,000.

- **Anticipated individual awards** – Multiple awards are anticipated.
- **Types of instruments that may be awarded** -- Procurement contract, grant, cooperative agreement, or other transactions
- **Agency contact**
  - Points of Contact:  
The BAA Technical POC is Aaron Lazarus, PhD.

The BAA Administrator for this effort can be reached at:

Electronic mail: [BAA08-58@darpa.mil](mailto:BAA08-58@darpa.mil)

DARPA/STO

ATTN: DARPA-BAA-08-58

3701 North Fairfax Drive

Arlington, VA 22203-1714

Solicitations can be viewed at:

Web: <http://www.darpa.mil/sto/solicitations/index.html>

## **Part Two: Full Text of Announcement**

### **1. FUNDING OPPORTUNITY DESCRIPTION**

The Defense Advanced Research Projects Agency often selects its research efforts through the Broad Agency Announcement (BAA) process. The BAA will appear first on the FedBizOpps website, <http://www.fedbizopps.gov/>, and/or Grants.gov website at <http://www.grants.gov/>. The following information is for those wishing to respond to the BAA.

DARPA is soliciting innovative research proposals in the area of economical and clean coal conversion to liquid hydrocarbon fuels. In particular, DARPA is interested in processes that will ultimately enable the United States to economically extract energy from its coal resources in the form of liquid fuels using coal to liquid conversion processes that are environmentally friendly and cost competitive with petroleum based fuels.

The U.S. military's reliance on fuels derived from foreign oil imports represents a vulnerability that could adversely affect our national security should a disruption in these sources occur. As one of the U.S. major consumers of energy, it is important for the DoD to explore alternative sources of fuel and electricity. Given the abundance of U.S. coal reserves, it is reasonable to assume that coal derived fuels could play an increased role in meeting future U.S. energy needs. The fact that this represents a domestic source is of particular value to ensuring future DoD Energy Security.

Unfortunately, the two conventional methods for extracting hydrocarbon fuels from coal (indirect and direct liquification) are extremely expensive to implement, consume large amounts of water, and produce unacceptable amounts of atmospheric CO<sub>2</sub> and other pollutants. For this reason DARPA's Strategic Technology Office is interested in exploring alternative coal to liquid fuel conversion technologies that offer environmentally friendly, yet efficient, methods for extracting useful energy from our Nation's coal resources.

#### **1.1. PROGRAM OVERVIEW**

The Coal to Liquids (CTL) program is designed to explore aggressive, short term, feasibility demonstrations of innovative concepts that would enable the DoD to effectively and economically exploit U.S. coal reserves as part of an overall strategy to ensure a secure future energy supply for our military services. To this end, the Strategic Technology Office at DARPA is interested in reviewing proposals that describe short term projects that would provide proof of concept for novel technologies that overcome the existing economic and environmental impact challenges that prevent exploitation of current CTL technologies as a major source of JP-8 aviation fuel.

Today, producers of liquid fuels from coal feedstock are capable of converting 120,000 metric tons of coal into approximately 150,000 barrels per day (bpd) of oil. The process used is an indirect approach to converting coal to liquid fuels which means that the coal is first gasified and then converted to the desired hydrocarbon content via a water gas shift reaction followed by Fischer-Tropsch synthesis. While direct approaches exist to liquefying coal without first

producing syn-gas, none of these approaches are currently being exploited in a commercial oil production facility.

The U.S. Department of Defense (DoD) currently uses on average over 300,000 barrels of petroleum based liquid fuels per day. In addition, the United States has over 275 billion tons of estimated coal reserves. Thus it is a reasonable expectation that, with existing CTL technologies, the DoD need for liquid fuels could be met using U.S. coal reserves for several thousand years.

Unfortunately, there are economic and environmental challenges that prevent the implementation of existing CTL technologies for producing JP-8 aviation fuel. It is estimated that the current cost of implementing a 100,000 bpd CTL facility would cost well over \$6 billion. In addition, the life cycle environmental cost of fuels derived from coal results in a net increase of 80% or more in terms of carbon dioxide emissions as compared to the use of petroleum based fuels. While the use of proposed carbon capture technologies might mitigate the increased carbon dioxide emissions, the scalability, reliability, and economics of these technologies are still very much unknown. Finally, existing CTL technologies rely on large amounts of water as a source of hydrogen. This is due to the fact that coal, while high in carbon content, is comprised of only 5% hydrogen. In contrast, JP-8 has closer to 15 % hydrogen composition by weight. Water is a natural source for hydrogen (11% hydrogen by weight); however the water based reactions for converting coal to liquid fuels (water gas shift, steam reforming, etc.) result in the excess carbon and oxygen reacting to produce the additional unwanted carbon dioxide that is a major disadvantage of existing CTL technologies.

The development and demonstration of an innovative approach to CTL fuels that overcomes the economic and environmental challenges of existing approaches would be a revolutionary advance in the DoD's ability to meet its requirements for a secure energy source. Therefore, DARPA's STO office is soliciting innovative proposals that promise proof of concept for technologies that can overcome the existing CTL economic and environmental challenges. A responsive proposal will address the metrics, key program elements, and final deliverables described in Section 1.2 below.

## **1.2 PROGRAM METRICS, KEY PROGRAM ELEMENTS, AND DELIVERABLES**

### **1.2.1 Program Metrics**

In order for the Government to evaluate the effectiveness of a proposed CTL feasibility demonstration effort, the following program metrics will be used as benchmarks for determining whether satisfactory proof of concept has been demonstrated to warrant further consideration through future DoD initiatives. Although DARPA is specifying the target program metrics for the CTL future vision, proposers should note that the Government has identified these goals with the intention of bounding the scope of effort, while affording the maximum flexibility, creativity, and innovation in proposing feasibility demonstration solutions to the stated problems.

**Economic viability:**

The \$6 billion in capital costs associated with implementing a 100,000 bpd CTL plant mentioned above correspond to effectively a 4X increase over the cost of implementing a similar capacity crude oil refinery. In addition, the current costs of CTL transportation fuels suggest that existing technologies can be expected to result in an end user cost that exceeds \$4.50/gallon. For the purposes of this BAA, the economic metrics that must be addressed in a responsive proposal must meet the following criteria:

- Capital cost < \$15,000 barrels per day (bpd) capacity
- End user cost < \$3 per gallon for JP-8 aviation fuel
- Scalable to 100,000 bpd

**Environmental Considerations:**

As mentioned earlier, the production of liquid fuels from coal using existing technologies produces large amounts of carbon dioxide and consumes large amounts of water. As an example, every kg of coal that is converted via the indirect liquefaction process (gasification + water gas shift reaction + Fischer Tropsch synthesis) is expected to produce 1.3 kg of carbon dioxide and 0.27 kg of oil. DARPA believes that innovative CTL concepts may exist that result in zero carbon dioxide emissions by avoiding the production of carbon dioxide. In addition to the carbon dioxide challenge, the need for steam in conventional CTL, require that for each 1 kg of coal converted to oil, as much as 1 kg of water must be consumed. Innovative CTL processes should consider utilizing the hydrogen available in the coal feedstock, alternative hydrogen sources, and/or recycling part of the water consumed during the process, DARPA believes that the required water per kg of coal converted to liquid fuel could be reduced to less than 0.5 kg.

For the purposes of this BAA, a responsive proposal must address the following environmental impact metrics:

- zero carbon dioxide emissions (up to the 100,000 bpd production levels)
- < 235 kg of water consumed for every barrel of fuel produced (equivalent to < 0.5 kg of water for every 0.27 kg of fuel)

**1.2.2 Key Program Elements**

Proposers are expected to describe in detail a feasibility demonstration project that would provide proof of concept for achieving the CTL program metrics. The proposal must include the following Key Program Elements:

- A detailed technical description of the proposed concept, how it meets the CTL metrics, and what technical discriminators differentiate the concept from existing Fischer-Tropsch

CTL approaches. Note that incremental improvements to existing Fischer-Tropsch or other existing CTL processes are not appropriate for consideration under this BAA.

- A discussion of all major technical barriers that prohibit the proposed concept from being implemented today.
- A detailed experimental work plan that is intended to be executed during the proposed feasibility demonstration to test the degree to which the proposer's innovations can overcome the identified major technical barriers.
- Quantitative goals against which data produced by the proposed experimental work plan can be measured. Proposers should clearly articulate why these goals were chosen as "proof of concept" for their feasibility demonstration and these goals should be justified in terms of their relation to the overall CTL economic and environmental metrics as detailed in Section 1.2.1.

### **1.2.3 Program Deliverables**

A proposal will describe an aggressive, 12 month feasibility demonstration effort that results in the following Program Deliverables:

- Detailed cost analysis showing how the proposed concept addresses the DARPA CTL economic viability metrics
- Detailed process analysis showing how the proposed concept addresses the DARPA CTL environmental impact metrics
- Report detailing the experimental data obtained during the proposed feasibility demonstration effort and how the data relates to the proposer's quantitative goals as well as the CTL program metrics.
- A summary presentation that discusses the degree to which the feasibility demonstration project has or has not provided "proof of concept" for the DARPA CTL program metrics and overall vision.

These deliverables can be combined into a single final report that would be submitted at the completion of any CTL effort awarded.

## **2. AWARD INFORMATION**

The funding opportunity is limited to one Government fiscal years worth of funding. The combined maximum amount of all awards will not exceed \$4560K.

Multiple awards are anticipated.

The Government reserves the right to select for negotiation all, some, one, or none of the proposals received in response to this solicitation, and to make awards without discussions with proposers. The Government also reserves the right to conduct discussions if the Source Selection Authority later determines them to be necessary. If warranted, portions of resulting awards may be segregated into pre-priced options. Additionally, DARPA reserves the right to accept proposals in their entirety or to select only portions of proposals for award. In the event that DARPA desires to award only portions of a proposal, negotiations may be opened with that

proposer. If the proposed effort is inherently divisible and nothing is gained from the aggregation, proposers should consider submitting it as multiple independent efforts. The Government reserves the right to fund proposals in phases with options for continued work at the end of one or more of the phases.

Awards under this BAA will be made to proposers on the basis of the evaluation criteria listed below (see section labeled “Application Review Information”, Sec. 5.), and program balance to provide overall value to the Government. Proposals identified for negotiation may result in a procurement contract, grant, cooperative agreement, or other transaction depending upon the nature of the work proposed, the required degree of interaction between parties, and other factors.

### **3. ELIGIBILITY INFORMATION**

#### **3.1 ELIGIBLE APPLICANTS**

All responsible sources capable of satisfying the Government's needs may submit a proposal that shall be considered by DARPA. Historically Black Colleges and Universities (HBCUs), Small Businesses, Small Disadvantaged Businesses and Minority Institutions (MIs) are encouraged to submit proposals and join others in submitting proposals; however, no portion of this announcement will be set aside for these organizations' participation due to the impracticality of reserving discrete or severable areas of this research for exclusive competition among these entities. Federally Funded Research and Development Centers (FFRDCs) and Government entities (Government/National laboratories, military educational institutions, etc.) are subject to applicable direct competition limitations and cannot propose to this BAA in any capacity, unless they can clearly demonstrate the work is not otherwise available from the private sector AND they also provide written documentation citing the specific statutory authority (as well as, where relevant, contractual authority) establishing their eligibility to propose to government solicitations. At the present time, DARPA does not consider 15 U.S.C. 3710a to be sufficient legal authority to show eligibility. While 10 U.S.C. 2539b may be the appropriate statutory starting point for some entities, specific supporting regulatory guidance, together with evidence of agency approval, will still be required to fully establish eligibility. DARPA will consider eligibility submissions on a case-by-case basis; however, the burden to prove eligibility for all team members rests solely with the Offeror.

Foreign participants and/or individuals may participate to the extent that such participants comply with any necessary Non-Disclosure Agreements, Security Regulations, Export Control Laws, and other governing statutes applicable under the circumstances.

#### **3.1.1 Procurement Integrity, Standards of Conduct, Ethical Considerations, and Organizational Conflicts of Interest**

Current federal employees are prohibited from participating in particular matters involving conflicting financial, employment, and representational interests (18 USC 203, 205, and 208.). The DARPA Program Manager for this BAA is Aaron Lazarus. As of the date of first publication of the BAA, the Government has not identified any potential conflicts of interest involving this program manager. Once the proposals have been received, and prior to the start of

proposal evaluations, the Government will assess potential conflicts of interest and will promptly notify the proposer if any appear to exist. (Please note the Government assessment does NOT affect, offset, or mitigate the proposer's own duty to give full notice and planned mitigation for all potential organizational conflicts, as discussed below.) The Program Manager is required to review and evaluate all proposals received under this BAA and to manage all selected efforts. Proposers should carefully consider the composition of their performer team before submitting a proposal to this BAA.

All Proposers and proposed subcontractors must therefore affirm whether they are providing scientific, engineering, and technical assistance (SETA) or similar support to any DARPA technical office(s) through an active contract or subcontract. All affirmations must state which office(s) the Proposer supports and identify the prime contract numbers. Affirmations shall be furnished at the time of proposal submission. All facts relevant to the existence or potential existence of organizational conflicts of interest (FAR 9.5) must be disclosed. The disclosure shall include a description of the action the proposer has taken or proposes to take to avoid, neutralize, or mitigate such conflict. In accordance with FAR 9.503 and without prior approval or a waiver from the DARPA Director, a Contractor cannot simultaneously be a SETA and a Performer. Proposals that fail to fully disclose potential conflicts of interests and / or do not have plans to mitigate this conflict will be returned without technical evaluation and withdrawn from further consideration for award.

If a prospective Proposer believes that any conflict of interest exists or may exist (whether organizational or otherwise), the Proposer should promptly raise the issue with DARPA by sending Proposer's contact information and a summary of the potential conflict by email to BAA08-58@darpa.mil, before time and effort are expended in preparing a proposal and mitigation plan. If, in the sole opinion of the Government after full consideration for the circumstances, any conflict situation cannot be effectively mitigated, the proposal may be returned without technical evaluation and withdrawn from further consideration for award under this BAA.

### **3.2 COST SHARING/MATCHING**

Cost sharing is not required for this particular program; however, cost sharing will be carefully considered where there is an applicable statutory condition relating to the selected funding instrument (e.g., for any Other Transactions under the authority of 10 U.S.C. § 2371). Cost sharing is encouraged where there is a reasonable probability of a potential commercial application related to the proposed research and development effort.

## **4. APPLICATION AND SUBMISSION INFORMATION**

### **4.1 ADDRESS TO REQUEST APPLICATION PACKAGE**

This solicitation contains all information required to submit a proposal. No additional forms, kits, or other materials are needed. This notice constitutes the total BAA. No additional information is available, nor will a formal Request for Proposal (RFP) or additional solicitation regarding this announcement be issued. Requests for same will be disregarded.

## 4.2 CONTENT AND FORM OF APPLICATION SUBMISSION

### 4.2.1 Abstract and Proposal Information

Proposers are strongly encouraged to electronically submit a proposal abstract in advance of a proposal through T-FIMS or Grants.gov. This procedure is intended to minimize unnecessary effort in proposal preparation and review. The time and date for submission of proposal abstracts is specified in Section 4.4.1 below. DARPA will acknowledge receipt of the submission and assign a control number that should be used in all further correspondence regarding the proposal abstract.

DARPA will respond to proposal abstracts with a statement regarding DARPA's interest in the idea. DARPA will attempt to reply to proposal abstracts within thirty (20) calendar days of receipt. Proposal abstracts will be reviewed in the order they are received. Early submissions of proposal abstracts and full proposals are strongly encouraged because selections may be made at any time during the period of solicitation. Regardless of DARPA's response to a proposal abstract, proposers may submit a full proposal. DARPA will review all full proposals submitted using the published evaluation criteria and without regard to any comments resulting from the review of a proposal abstract.

Proposers are required to electronically submit full proposals by the time and date specified in the BAA in order to be considered during the initial round of selections. DARPA may evaluate proposals received after this date for a period up to one year from date of posting on FedBizOpps and Grants.gov. Selection remains contingent on availability of funds.

The typical proposal should express a consolidated effort in support of one or more related technical concepts or ideas. Disjointed efforts should not be included into a single proposal.

Restrictive notices notwithstanding, proposals may be handled, for administrative purposes only, by a support contractor. This support contractor is prohibited from competition in DARPA technical research and is bound by appropriate nondisclosure requirements. Proposals and proposed abstracts may not be submitted by fax or e-mail; any so sent will be disregarded.

Proposals not meeting the format described in the BAA may not be reviewed.

Proposers may elect to use the Grants.gov APPLY function if the applicant is seeking a grant or cooperative agreement. The APPLY function replaces the proposal submission process that other proposers follow. The APPLY function does not affect the proposal content or format. The APPLY function is electronic; proposers do not submit paper proposals in addition to the Grants.gov APPLY electronic submission.

All administrative correspondence and questions on this solicitation, including requests for information on how to submit a proposal abstract or proposal to this BAA, should be directed to one of the administrative addresses below; e-mail or fax is preferred.

Electronic mail: [BAA08-58@darpa.mil](mailto:BAA08-58@darpa.mil)  
Fax: (709) 465-1070  
DARPA/STO  
ATTN: DARPA-BAA-08-58  
3701 North Fairfax Drive  
Arlington, VA 22203-1714  
Solicitations can be viewed at:  
Web: <http://www.darpa.mil/sto/solicitations/index.html>

DARPA intends to use electronic mail and fax for correspondence regarding DARPA-BAA-08-58. Proposals and proposal abstracts may not be submitted by fax or e-mail; any so sent will be disregarded. DARPA encourages use of the Internet for retrieving the BAA and any other related information that may subsequently be provided.

**All DARPA-BAA-08-58 abstract and proposal submissions not submitted through Grants.gov must be submitted through T-FIMS.** Instructions on how to submit proposals via DARPA's T-FIMS BAA Submission System can be found at the following link: <https://www.tfims.darpa.mil/baa/baalist.asp>. A thorough read of these instructions guarantees successful submission to T-FIMS and explains all the necessary steps to submitting proposals through T-FIMS. Because proposers using T-FIMS may encounter heavy traffic on the web server, and T-FIMS requires a registration and certificate installation for all proposers, proposers should not wait until the day the proposal is due to create an account in T-FIMS and submit the proposal. All proposers using T-FIMS must also encrypt the proposal, as per the instructions below.

All proposals submitted electronically via the T-FIMS BAA Tool (not including Grants.gov) must be encrypted using Winzip or PKZip with 256-bit AES encryption. Only one zipped/encrypted file will be accepted per proposal and proposals not zipped/encrypted will be rejected by DARPA. An encryption password form must be completed and emailed to BAA08-58@darpa.mil at the time of proposal submission. See <https://www.tfims.darpa.mil/baa/> for the encryption password form.

Note the word "PASSWORD" must appear in the subject line of the above email and there are minimum security requirements for establishing the encryption password. Failure to provide the encryption password may result in the proposal not being evaluated. For further information and instructions on how to zip and encrypt proposal files, see <https://www.tfims.darpa.mil/baa/>.

#### **4.2.2 Restrictive Markings on Proposals**

All proposals should clearly indicate limitations on the disclosure of their contents. Proposers who include in their proposals data that they do not want disclosed to the public for any purpose, or used by the Government except for evaluation purposes, shall-

(1) Mark the title page with the following legend:

This proposal includes data that shall not be disclosed outside the Government and shall not be duplicated, used, or disclosed-in whole or in part-for any purpose other than to evaluate

this proposal. If, however, a contract is awarded to this proposer as a result of, or in connection with, the submission of this data, the Government shall have the right to duplicate, use, or disclose the data to the extent provided in the resulting contract. This restriction does not limit the Government's right to use information contained in this data if it is obtained from another source without restriction. The data subject to this restriction are contained in sheets [insert numbers or other identification of sheets]; and

(2) Mark each sheet of data it wishes to restrict with the following legend:

Use or disclosure of data contained on this sheet is subject to the restriction on the title page of this proposal.

Markings like "Company Confidential" or other phrases that may be confused with national security classifications shall be avoided. See Section 6.0, for additional information.

### **4.3 FORMATTING CHARACTERISTICS**

#### **4.3.1 Proposal Abstract Format**

Proposal abstracts are encouraged in advance of proposals in order to provide potential proposers with a rapid response to minimize unnecessary effort. Proposal abstracts should follow the same general format as described for Volume I under PROPOSAL FORMAT (see below), but include ONLY Sections I and II. The cover sheet should be clearly marked "PROPOSAL ABSTRACT" and the total length should not exceed {13} pages, excluding cover page and official transmittal letter. All pages shall be printed on 8-1/2 by 11 inch paper with type not smaller than 12 point. Smaller font may be used for figures, tables and charts. The page limitation for proposal abstracts includes all figures, tables, and charts. No formal transmittal letter is required. All proposal abstracts must be written in English.

##### 4.3.1.1. {1} Cover sheet to include:

1. BAA number
2. Technical area (see Sec 1.1)
3. Lead Organization Submitting proposal
4. Type of business, selected among the following categories: "LARGE BUSINESS," "SMALL DISADVANTAGED BUSINESS," "OTHER SMALL BUSINESS," "HBCU," "MI," "OTHER EDUCATIONAL," or "OTHER NONPROFIT"
5. Contractor's reference number (if any)
6. Other team members (if applicable) and type of business for each
7. Abstract title
8. Technical point of contact to include: salutation, last name, first name, street address, city, state, zip code, telephone, fax (if available), electronic mail (if available)
9. Administrative point of contact to include: salutation, last name, first name, street address, city, state, zip code, telephone, fax (if available), electronic mail (if available)
10. Funds requested from DARPA for and the amount of cost share (if any)
11. Date abstract was prepared.

4.3.1.2 {1} Executive Summary:

Includes a title and an abstract that provides a concise statement of work and basic approaches to be used. The executive summary should be submitted excluding any proprietary data, in the event it is determined to be releasable under FOIA request.

4.3.1.3 {1} Summary of Innovative Claims for the Proposed Research:

Succinctly describe the uniqueness and benefits of the proposed approach relative to the current state-of-art and alternative approaches.

4.3.1.4 {6} Summary of Technical Approach:

The technical rationale, technical approach, and constructive plan for accomplishments of technical goals in support of innovative claims and deliverable production should be summarized.

4.3.1.5 {2} Organization and Teaming Chart:

A clearly defined organization chart for the program team that includes, as applicable:

1. programmatic relationship of team members;
2. unique capabilities of team members;
3. task responsibilities of team members;
4. teaming strategy among the team members;
5. key personnel along with the amount of effort to be expended by each person during each year.

4.3.1.6 {1} Summary of Deliverables and Approach to Intellectual Property:

Deliverables associated with the proposed research and the plans and capability to accomplish technology transition and commercialization. Include in this section all proprietary claims to results, prototypes, intellectual property, or systems supporting and/or necessary for the use of the research, results, and/or proto-type. If there are no proprietary claims, this should be stated. This section should list all technical data, computer software, or computer software documentation to be provided with other than unlimited rights in accordance with DFARS Clause 252.227-7017 IDENTIFICATION AND ASSERTION OF USE, RELEASE, OR DISCLOSURE RESTRICTIONS (JUNE 1995).

4.3.1.7 {1} Summary of Cost, Schedule, and Deliverables:

Summarize, in table form, cost, schedule, and deliverables for the proposed feasibility demonstration research, including estimates of cost for each deliverable and total cost.

4.3.1.8 {1} Discussion of Other Research:

Compare the proposed effort with other ongoing research in this area. Describe the advantages and disadvantages of the proposed effort in comparison with other relevant research.

**4.3.2 Proposal Format**

All proposals must be in the format given below. Nonconforming proposals may be rejected without review. Proposals shall consist of two volumes. All pages shall be printed on 8-1/2 by 11 inch paper with type not smaller than 12 point. Smaller font may be used for figures, tables and charts. The page limitation for proposals includes all figures, tables, and charts. Volume I,

Technical and Management Proposal, may include an attached bibliography of relevant technical papers or research notes (published and unpublished) which document the technical ideas and approach upon which the proposal is based. Copies of not more than three (3) relevant papers can be included with the submission. The bibliography and attached papers are not included in the page counts given below. The submission of other supporting materials along with the proposals is strongly discouraged and will not be considered for review. Except for the attached bibliography and Section I, Volume I shall not exceed {40} pages. Maximum page lengths for each section are shown in braces { } below. All proposals must be written in English.

#### 4.3.2.1 Volume I, Technical and Management Proposal

##### Section I. Administrative

- A. Cover sheet to include:
- (1) BAA number
  - (2) Technical area
  - (3) Lead Organization Submitting proposal
  - (4) Type of business, selected among the following categories: “LARGE BUSINESS”, “SMALL DISADVANTAGED BUSINESS”, “OTHER SMALL BUSINESS”, “HBCU”, “MI”, “OTHER EDUCATIONAL”, OR “OTHER NONPROFIT”
  - (5) Contractor’s reference number (if any)
  - (6) Other team members (if applicable) and type of business for each
  - (7) Proposal title
  - (8) Technical point of contact to include: salutation, last name, first name, street address, city, state, zip code, telephone, fax (if available), electronic mail (if available)
  - (9) Administrative point of contact to include: salutation, last name, first name, street address, city, state, zip code, telephone, fax (if available), electronic mail (if available), total funds requested from DARPA, and the amount of cost share (if any) and
  - (10) Date proposal was submitted.
- B. Official transmittal letter.

##### Section II. Summary of Proposal

- A. {1} Innovative claims for the proposed research. This section is the centerpiece of the proposal and should succinctly describe the uniqueness and benefits of the proposed approach relative to the current state-of-art alternate approaches.
- B. {1} Deliverables associated with the proposed research and the plans and capability to accomplish technology transition and commercialization (if any). Include in this section all proprietary claims to the results, prototypes, intellectual property, or systems supporting and/or necessary for the use of the research, results, and/or prototype. If there are not proprietary claims, this should be stated.
- C. {1} Cost, schedule and measurable performance metrics for the proposed feasibility demonstration, including estimates of cost for each task delineated by the prime and major subcontractors, total cost and company cost share, if applicable. Interim non-critical management milestones are highly encouraged at a regular interval.
- D. {3} Technical rationale, technical approach, and constructive plan for accomplishment of technical goals in support of innovative claims and deliverable production. (In the proposal, this section should be supplemented by a more detailed plan in Section III.)

- E. {1} General discussion of other research in this area.
- F. {1} A clearly defined organization chart for the program team which includes, as applicable: (1) the programmatic relationship of team member; (2) the unique capabilities of team members; (3) the task of responsibilities of team members; (4) the teaming strategy among the team members; and (5) the key personnel along with the amount of effort to be expended by each person during each year.
- G. {1} A one-slide summary of the proposal in PowerPoint that quickly and succinctly indicates the main objective, key innovations, expected impact, and other unique aspects of the proposal.

### Section III. Detailed Proposal Information

- A. {6} Statement of Work (SOW) - In plain English, clearly define the technical tasks/subtasks to be performed, their durations, and dependencies among them. The page length for the SOW will be dependent on the amount of the effort. For each task/subtask, provide:
  - A general description of the objective (for each defined task/activity);
  - A detailed description of the approach to be taken to accomplish each defined task/activity);
  - Identification of the primary organization responsible for task execution (prime, sub, team member, by name, etc.);
  - The exit criteria for each task/activity - a product, event or milestone that defines its completion.
  - Define all deliverables (reporting, data, reports, software, etc.) to be provided to the Government in support of the proposed research tasks/activities.

*Note:* Do not include any proprietary information in the SOW.

- B. {2} Description of the results, products, transferable technology, and expected technology transfer path enhancing that of Section II. B.
- C. {7} Detailed technical rationale enhancing that of Section II.
- D. {7} Detailed technical approach enhancing and completing that of Section II.
- E. {2} Comparison with other ongoing research indicating advantages and disadvantages of the proposed effort.
- F. {2} Discussion of proposer's previous accomplishments and work in closely related research areas.
- G. {2} Description of the facilities that would be used for the proposed effort.
- H. {2} Detail support enhancing that of Section II, including formal teaming agreements which are required to execute this program.
- I. {1} Cost schedules and performance metrics for each task of the proposed feasibility demonstration, delineated by the primes and major subcontractors, total cost, and any company cost share. Interim non-critical management milestones are also highly encouraged at regular intervals. Where the effort consists of multiple portions which could reasonably be partitioned for purposes of funding, these should be identified as options with separate cost estimates for each. Additionally, proposals should clearly explain the technical approach(es) that will be employed to meet or exceed each program metric and provide ample justification as to why the approach(es) is/are feasible.

Section IV. Additional Information

A brief bibliography of relevant technical papers and research notes (published and unpublished) which document the technical ideas upon which the proposal is based. Copies of not more than three (3) relevant papers can be included in the submission.

4.3.2.2 Volume II, Cost Proposal – {No Page Limit}

Cover sheet to include:

- (1) BAA number;
- (2) Technical area;
- (3) Lead Organization Submitting proposal;
- (4) Type of business, selected among the following categories: “LARGE BUSINESS”, “SMALL DISADVANTAGED BUSINESS”, “OTHER SMALL BUSINESS”, “HBCU”, “MI”, “OTHER EDUCATIONAL”, OR “OTHER NONPROFIT”;
- (5) Contractor’s reference number (if any);
- (6) Other team members (if applicable) and type of business for each;
- (7) Proposal title;
- (8) Technical point of contact to include: salutation, last name, first name, street address, city, state, zip code, telephone, fax (if available), electronic mail (if available);
- (9) Administrative point of contact to include: salutation, last name, first name, street address, city, state, zip code, telephone, fax (if available), and electronic mail (if available);
- (10) Award instrument requested: cost-plus-fixed-fee (CPFF), cost-fee, cost-plus-fixed-fee (CPFF), cost-fee—no fee, cost sharing contract – no fee, or other type of procurement contract (*specify*), or other transaction;
- (11) Place(s) and period(s) of performance;
- (12) Total proposed cost separated by basic award and option(s) (if any);
- (13) Name, address, and telephone number of the proposer’s cognizant Defense Contract Management Agency (DCMA) administration office (*if known*);
- (14) Name, address, and telephone number of the proposer’s cognizant Defense Contract Audit Agency (DCAA) audit office (*if known*);
- (15) Date proposal was prepared;
- (16) DUNS number;
- (17) TIN number; and
- (18) Cage Code;
- (19) Subcontractor Information; and
- (20) Proposal validity period
- (21) Any Forward Pricing Rate Agreement, other such approved rate information, or such other documentation that may assist in expediting negotiations (if available).

Detailed cost breakdown to include:

- (1) total program cost broken down by major cost items to include:
  - i. direct labor, including individual labor categories or persons, with associated labor hours and numbered direct labor rates
  - ii. If consultants are to be used, proposer must provide consultant agreement or other document which verifies the proposed loaded daily/hourly rate

- iii. Indirect costs including Fringe Benefits, Overhead, General and Administrative Expense, Cost of Money, etc. (Must show base amount and rate)
  - iv. Travel – Number of trips, number of days per trip, departure and arrival destinations, number of people, etc.
  - v. Other Direct Costs – Should be itemized with costs or estimated costs. Backup documentation should be submitted to support proposed costs.
- (2) major program tasks by fiscal year
  - (3) an itemization of major subcontracts and equipment purchases, to include: a cost proposal as detailed as the Proposer’s cost proposal; the subcontractor’s cost proposal can be provided in a sealed envelope with the Proposer’s cost proposal. Materials should be specifically itemized with costs or estimated costs. An explanation of any estimating factors, including their derivation and application, shall be provided. Please include a brief description of the Proposers’ procurement method to be used;
  - (4) an itemization of any information technology (IT) purchase including subcontractor cost (NOTE: For IT equipment purchases, include a letter stating why the proposer cannot provide the requested resources from its own funding)
  - (5) a summary of projected funding requirements by month; and
  - (6) the source, nature, and amount of any industry cost-sharing. Where the effort consists of multiple portions which could reasonably be partitioned for purposes of funding, these should be identified as options with separate cost estimates for each; and identification of pricing assumptions of which may require incorporation into the resulting award instrument (e.g., use of Government Furnished / Facilities / Information, access to Government Subject Matter Expert/s, etc.

The prime contractor is responsible for compiling and providing all subcontractor proposals for the Procuring Contracting Officer (PCO). Subcontractor proposals should include Interdivisional Work Transfer Agreements (ITWA) or similar arrangements.

Supporting cost and pricing information must be provided in sufficient detail to substantiate the summary cost estimates in Section II C. above. Include a description of the method used to estimate costs and supporting documentation. Note: “cost or pricing data” as defined in FAR Subpart 15.4 shall be required if the proposer is seeking a procurement contract award of \$650,000 or greater unless the proposers request an exception from the requirement to submit cost of pricing data. “Cost or pricing data” are not required if the proposer proposes an award instrument other than a procurement contract (e.g., a grant, cooperative agreement, or other transaction.) All proprietary subcontractor proposal documentation, prepared at the same level of detail as that required of the prime, of which cannot be uploaded to T-FIMS shall be made immediately available to the Government, upon request, under separate cover (i.e., mail, electronic / email, etc.), either by the Proposer or by the subcontractor organization.

Proposers must submit an OCI Mitigation Plan (if applicable) to detail what steps the contractor is performing to mitigate an actual or perceived conflict of interest.

#### **4.4 SUBMISSION DATES AND TIMES**

##### **4.4.1 Proposal Abstract Date**

The proposal abstract (one electronic copy) must be submitted to <http://www.tfims.darpa.mil/baa> on or before 4:00 p.m., local time, September 24, 2008. Proposal abstracts received after this time and date may not be reviewed.

#### **4.4.2 Proposal Date**

The proposal (one electronic copy) must be submitted to <http://www.tfims.darpa.mil/baa> on or before 4:00 p.m., local time, November 12, 2008 in order to be considered during the initial round of selections; however, proposals received after this deadline may be received and evaluated up to one year from date of posting on FedBizOpps. Proposals may be submitted at any time from issuance of this announcement through the closing date or due date otherwise specified by DARPA; however, proposers are warned that the likelihood of funding is greatly reduced for proposals submitted after the initial closing date deadline.

DARPA will post a consolidated Question and Answer response after September 30, 2008, before final full proposals are due. In order to receive a response to your question, submit your question by September 19, 2008 to the (BAA Mailbox, BAA08-58@darpa.mil).

DARPA will acknowledge receipt of complete submissions via email and assign control numbers that should be used in all further correspondence regarding proposals.

Failure to comply with the submission procedures may result in the submission not being evaluated.

#### **4.5 INTERGOVERNMENTAL REVIEW (Not applicable)**

#### **4.6 FUNDING RESTRICTIONS**

The funding opportunity is limited to one Government fiscal year's worth of funding. The combined maximum amount of all awards will not exceed \$4,560,000.

### **5. APPLICATION REVIEW INFORMATION**

#### **5.1 EVALUATION CRITERIA**

Evaluation of proposals will be accomplished through a scientific/technical review of each proposal using the following criteria, in order of descending importance: (5.1.1) Ability to Meet Program Metrics, (5.1.2) Overall Scientific and Technical Merit; (5.1.3) Potential Contribution and Relevance to the DARPA Mission; (5.1.4) Proposer's Capabilities and/or Related Experience; (5.1.5) Plans and Capability to Accomplish Technology Transition; and (5.1.6) Cost Realism. Proposals will not be evaluated against each other since they are not submitted in accordance with a common work statement. DARPA's intent is to review proposals as soon as possible after they arrive; however, proposals may be reviewed periodically for administrative reasons

##### **5.1.1 Ability to Meet Program Metrics**

The feasibility and likelihood of the proposed approach for satisfying the program economic viability and environmental impact metrics, as described in Section 1.2.1, are explicitly described and clearly substantiated. The proposal reflects a mature and quantitative understanding of the program feasibility demonstration metrics, the statistical confidence with which they may be measured, and their relationship to the concept of operations that will result from successful performance in the program.

#### **5.1.2 Overall Scientific and Technical Merit**

The proposed technical approach is feasible, achievable, complete and supported by a proposed technical team that has the expertise and experience to accomplish the proposed tasks as referenced in Section 4.3.2.1, Sub-section III “Detailed Technical Proposal” on page 15. Task descriptions and associated technical elements provided are complete, address the “Key Program Elements” described in Section 1.2.2, and in a logical sequence. All proposed deliverables are consistent with Section 1.2.3 “Program Deliverables” and are clearly defined such that a final product that achieves the goal can be expected as a result of award. The proposal clearly identifies major technical risks and planned mitigation efforts and provides ample justification as to why the approach (es) is / are feasible.

#### **5.1.3 Potential Contribution and Relevance to the DARPA Mission**

The potential contributions of the proposed effort with relevance to the national technology base will be evaluated. Specifically, DARPA’s mission is to maintain the technological superiority of the U.S. military and prevent technological surprise from harming our national security by sponsoring revolutionary, high-payoff research that bridges the gap between fundamental discoveries and their military use.

#### **5.1.4 Proposer’s Capabilities and/or Related Experience**

The proposer's prior experience in similar efforts must clearly demonstrate an ability to deliver products that meet the proposed technical performance within the proposed budget and schedule. The proposed team’s expertise to manage the cost and schedule will be evaluated. Similar efforts completed/ongoing by the proposer in this area are fully described including identification of other Government sponsors.

#### **5.1.5 Plans and Capability to Accomplish Technology Transition**

The capability to transition the technology to the research, industrial, and operational military communities in such a way as to enhance U.S. defense, and the extent to which intellectual property rights limitations creates a barrier to technology transition.

#### **5.1.6 Cost Realism**

The objective of this criterion is to establish that the proposed costs are realistic for the technical and management approach offered, as well as to determine the proposer’s practical understanding of the effort. This will be principally measured by cost per labor-hour and number of labor-hours proposed. The evaluation criterion recognize that undue emphasis on cost may motivate proposers to offer low-risk ideas with minimum uncertainty and to staff the effort with junior personnel in order to be in a more competitive posture. DARPA discourages such cost strategies. Cost reduction approaches that will be received favorably include innovative

management concepts that maximize direct funding for technology and limit diversion of funds into overhead.

After selection and before award the contracting officer will negotiate cost/price reasonableness.

Award(s) will be made to proposers whose proposals are determined to be the most advantageous to the Government, all factors considered, including the potential contributions of the proposed work to the overall research program and the availability of funding for the effort. Award(s) may be made to any proposer(s) whose proposal(s) is determined advantageous to the Government regardless of its overall rating.

**NOTE: PROPOSERS ARE CAUTIONED THAT EVALUATION RATINGS MAY BE LOWERED AND/OR PROPOSALS REJECTED IF SUBMITTAL INSTRUCTIONS ARE NOT FOLLOWED.**

## **5.2 REVIEW AND RECOMMENDATION PROCESS**

It is the policy of DARPA to ensure impartial, equitable, comprehensive proposal evaluations and to select the source (or sources) whose offer meets the Government's technical, policy, and programmatic goals. Pursuant to FAR 35.016, the primary basis for selecting proposals for acceptance shall be technical, importance to agency programs, and fund availability. In order to provide the desired evaluation, qualified Government personnel will conduct reviews and (if necessary) convene panels of experts in the appropriate areas.

Proposals will not be evaluated against each other since they are not submitted in accordance with a common work statement. DARPA's intent is to review proposals as soon as possible after they arrive; however, proposals may be reviewed periodically for administrative reasons. For evaluation purposes, a proposal is the document described in "Proposal Information", Section 4.2.1. Other supporting or background materials submitted with the proposal will be considered for the reviewer's convenience only and not considered as part of the proposal.

Restrictive notices notwithstanding, proposals may be handled for administrative purposes by support contractors. These support contractors are prohibited from competition in DARPA technical research and are bound by appropriate non-disclosure requirements.

Subject to the restrictions set forth in FAR 37.203(d), input on technical aspects of the proposals may be solicited by DARPA from non-Government consultants /experts who are strictly bound by the appropriate non-disclosure requirements.

It is the policy of DARPA to treat all proposals as competitive information and to disclose their contents only for the purpose of evaluation. No proposals will be returned. Upon completion of the source selection process, the original of each proposal received will be retained at DARPA and all other copies will be destroyed.

## **6. AWARD ADMINISTRATION INFORMATION**

## 6.1 AWARD NOTICES

As soon as the evaluation of a proposal is complete, the proposers will be notified that 1) the proposal has been selected for funding pending contract negotiations, or 2) the proposal has not been selected. These official notifications will be sent via mail to the Technical POC identified on the proposal coversheet.

## 6.2 ADMINISTRATIVE AND NATIONAL POLICY REQUIREMENTS

### 6.2.1 Security.

The Government anticipates that proposals submitted under this BAA will be unclassified. In the event that a proposer chooses to submit a classified proposal or submit any documentation that may be classified, the following information is applicable.

After reviewing the incoming proposals, if a determination is made that the award instrument may result in access to classified information; a DD Form 254 will be issued and attached as part of the award. Proposers choosing to submit a classified proposal must first receive permission from the Original Classification Authority to use their information in replying to this BAA. Applicable classification guide(s) should be submitted to ensure that the proposal is protected appropriately.

Classified submissions shall be in accordance with the following guidance:

**Collateral Classified Information:** Use classification and marking guidance provided by previously issued security classification guides, the Information Security Regulation (DoD 5200.1-R), and the National Industrial Security Program Operating Manual (DoD 5220.22-M) when marking and transmitting information previously classified by another original classification authority. Classified information at the Confidential and Secret level may only be mailed via U.S. Postal Service (USPS) Registered Mail or U.S. Postal Service Express Mail. All classified information will be enclosed in opaque inner and outer covers and double wrapped. The inner envelope shall be sealed and plainly marked with the assigned classification and addresses of both sender and addressee. The inner envelope shall be address to:

Defense Advanced Research Projects Agency  
ATTN: STO  
Reference: DARPA-BAA-08-58)  
3701 North Fairfax Drive  
Arlington, VA 22203-1714

The outer envelope shall be sealed with no identification as to the classification of its contents and addressed to:

Defense Advanced Research Projects Agency  
Security & Intelligence Directorate, Attn: CDR  
3701 North Fairfax Drive

Arlington, VA 22203-1714

All Top Secret materials should be hand carried via an authorized, two-person courier team to the DARPA CDR.

**Special Access Program (SAP) Information:** Contact the DARPA Special Access Program Central Office (SAPCO) 703-526-4052 for further guidance and instructions prior to transmitting SAP information to DARPA. Top Secret SAP, must be transmitted via approved methods for such material. Consult the DoD Overprint to the National Industrial Security Program Operating Manual for further guidance. *Prior to transmitting SAP material*, it is strongly recommended that you coordinate your submission with the DARPA SAPCO.

**Sensitive Compartmented Information (SCI) Data:** Contact the DARPA Special Security Office (SSO) at 703-812-1994/1993 for the correct SCI courier address and instructions. All SCI should be transmitted through your servicing Special Security Officer (SSO). SCI data must be transmitted through SCI channels only (i.e., approved SCI Facility to SCI facility via secure fax).

Proprietary Data: All proposals containing proprietary data should have the cover page and each page containing proprietary data clearly marked as containing proprietary data. It is the Proposers' responsibility to clearly define to the Government what is considered proprietary data.

Proposers must have existing and in-place prior to execution of an award, approved capabilities (personnel and facilities) to perform research and development at the classification level they propose. It is the policy of DARPA to treat all proposals as competitive information, and to disclose their contents only for the purpose of evaluation. Proposals will not be returned. The original of each proposal received will be retained at DARPA and all other non-required copies destroyed. A certification of destruction may be requested, provided that the formal request is received at this office within 5 days after unsuccessful notification.

## **6.3 INTELLECTUAL PROPERTY**

### **6.3.1 Procurement Contract Proposers**

#### **6.3.1.1 Noncommercial Items (Technical Data and Computer Software)**

Proposers responding to this BAA requesting a procurement contract to be issued under the FAR/DFARS, shall identify all noncommercial technical data, and noncommercial computer software that it plans to generate, develop, and/or deliver under any proposed award instrument in which the Government will acquire less than unlimited rights, and to assert specific restrictions on those deliverables. Proposers shall follow the format under DFARS 252.227-7017 for this stated purpose. In the event that proposers do not submit the list, the Government will assume that it automatically has "unlimited rights" to all noncommercial technical data and noncommercial computer software generated, developed, and/or delivered under any award instrument, unless it is substantiated that development of the noncommercial technical data and noncommercial computer software occurred with mixed funding. If mixed funding is anticipated

in the development of noncommercial technical data, and noncommercial computer software generated, developed, and/or delivered under any award instrument, then proposers should identify the data and software in question, as subject to Government Purpose Rights (GPR). In accordance with DFARS 252.227-7013 Rights in Technical Data - Noncommercial Items, and DFARS 252.227-7014 Rights in Noncommercial Computer Software and Noncommercial Computer Software Documentation, the Government will automatically assume that any such GPR restriction is limited to a period of five (5) years in accordance with the applicable DFARS clauses, at which time the Government will acquire “unlimited rights” unless the parties agree otherwise. Proposers are admonished that the Government will use the list during the source selection evaluation process to evaluate the impact of any identified restrictions, and may request additional information from the proposer, as may be necessary, to evaluate the proposer’s assertions. If no restrictions are intended, then the proposer should state “NONE.”

A sample list for complying with this request is as follows:

NONCOMMERCIAL			
Technical Data Computer Software To be Furnished With Restrictions	Basis for Assertion	Asserted Rights Category	Name of Person Asserting Restrictions
(LIST)	(LIST)	(LIST)	(LIST)

6.3.1.2 Commercial Items (Technical Data and Computer Software)

Proposers responding to this BAA requesting a procurement contract to be issued under the FAR/DFARS, shall identify all commercial technical data, and commercial computer software that may be embedded in any noncommercial deliverables contemplated under the research effort, along with any applicable restrictions on the Government’s use of such commercial technical data and/or commercial computer software. In the event that proposers do not submit the list, the Government will assume that there are no restrictions on the Government’s use of such commercial items. The Government may use the list during the source selection evaluation process to evaluate the impact of any identified restrictions, and may request additional information from the proposer, as may be necessary, to evaluate the proposer’s assertions. If no restrictions are intended, then the proposer should state “NONE.”

A sample list for complying with this request is as follows:

COMMERCIAL			
Technical Data Computer Software To be Furnished With Restrictions	Basis for Assertion	Asserted Rights Category	Name of Person Asserting Restrictions
(LIST)	(LIST)	(LIST)	(LIST)

## **6.3.2 NonProcurement Contract Proposers**

### 6.3.2.1 Noncommercial and Commercial Items (Technical Data and Computer Software)

Proposers responding to this BAA requesting an Other Transaction for Prototype shall follow the applicable rules and regulations governing that instrument, but in all cases should appropriately identify any potential restrictions on the Government's use of any Intellectual Property contemplated under that award instrument. This includes both Noncommercial Items and Commercial Items. Although not required, proposers may use a format similar to that described in Paragraphs 1.a and 1.b above. The Government may use the list during the source selection evaluation process to evaluate the impact of any identified restrictions, and may request additional information from the proposer, as may be necessary, to evaluate the proposer's assertions. If no restrictions are intended, then the proposer should state "NONE."

### 6.3.2.2 All Proposers – Patents

Include documentation proving your ownership of or possession of appropriate licensing rights to all patented inventions (or inventions for which a patent application has been filed) that will be utilized under your proposal for the DARPA program. If a patent application has been filed for an invention that your proposal utilizes, but the application has not yet been made publicly available and contains proprietary information, you may provide only the patent number, inventor name(s), assignee names (if any), filing date, filing date of any related provisional application, and a summary of the patent title, together with either: 1) a representation that you own the invention, or 2) proof of possession of appropriate licensing rights in the invention.

### 6.3.2.3 All Proposers-Intellectual Property Representations

Provide a good faith representation that you either own or possess appropriate licensing rights to all other intellectual property that will be utilized under your proposal for the DARPA program. Additionally, proposers shall provide a short summary for each item asserted with less than unlimited rights that describes the nature of the restriction and the intended use of the intellectual property in the conduct of the proposed research.

## **6.4 MEETING AND TRAVEL REQUIREMENTS**

There will be a program kickoff meeting and all key participants are required to attend. Performers should also anticipate periodic site visits at the Program Manager's discretion.

## **6.5 HUMAN USE**

Proposals selected for contract award are required to comply with provisions of the Common Rule (32 CFR 219) on the protection of human subjects in research (<http://www.dtic.mil/biosys/downloads/32cfr219.pdf>) and the Department of Defense Directive 3216.2 ([http://navymedicine.med.navy.mil/Files/Media/ecm/sitedata/BC325237-802E-D019-A78AF9A6F4DF4282/library/1-08%20-%20DODD%203216-2%20\(25%20Mar%202002\).pdf](http://navymedicine.med.navy.mil/Files/Media/ecm/sitedata/BC325237-802E-D019-A78AF9A6F4DF4282/library/1-08%20-%20DODD%203216-2%20(25%20Mar%202002).pdf)). All proposals that involve the use of human subjects are required to include documentation of their ability to follow Federal guidelines for the protection of human subjects. This includes, but is not limited to, protocol approval mechanisms, approved Institutional Review Boards, and Federal Wide Assurances. These requirements are based on expected human use issues sometime during the entire length of the proposed effort.

For proposals involving “greater than minimal risk” to human subjects within the first year of the project, performers must provide evidence of protocol submission to a federally approved IRB at the time of final proposal submission to DARPA. For proposals that are forecasted to involve “greater than minimal risk” after the first year, a discussion on how and when the proposer will comply with submission to a federally approved IRB needs to be provided in the submission. More information on applicable federal regulations can be found at the Department of Health and Human Services – Office of Human Research Protections website (<http://www.dhhs.gov/ohrp/>). Any aspects of a proposal involving human use should be specifically called out as a separate element of the statement of work and cost proposal to allow for independent review and approval of those elements.

For all proposed research that will involve human subjects in the first year or phase of the project, the institution must provide evidence of or a plan for review by an Institutional Review Board (IRB) upon final proposal submission to DARPA. The IRB conducting the review must be the IRB identified on the institution’s Assurance. The protocol, separate from the proposal, must include a detailed description of the research plan, study population, risks and benefits of study participation, recruitment and consent process, data collection, and data analysis. Consult the designated IRB for guidance on writing the protocol. The informed consent document must comply with federal regulations (32 CFR 219.116). A valid Assurance along with evidence of appropriate training all investigators should all accompany the protocol for review by the IRB.

In addition to a local IRB approval, a headquarters-level human subjects regulatory review and approval is required for all research conducted or supported by the DoD. The Army, Navy, or Air Force office responsible for managing the award can provide guidance and information about their component’s headquarters-level review process. Note that confirmation of a current Assurance and appropriate human subjects protection training is required before headquarters-level approval can be issued.

The amount of time required to complete the IRB review/approval process may vary depending on the complexity of the research and/or the level of risk to study participants. Ample time should be allotted to complete the approval process. The IRB approval process can last between one to three months, followed by a DoD review that could last between three to six months. No DoD/DARPA funding can be used towards human subjects research until ALL approvals are granted.

## **6.6 ANIMAL USE**

Any Recipient performing research, experimentation, or testing involving the use of animals shall comply with the rules on animal acquisition, transport, care, handling, and use in: (i) 9 CFR parts 1-4, Department of Agriculture rules that implement the Laboratory Animal Welfare Act of 1966, as amended, (7 U.S.C. 2131-2159); and (ii) the guidelines described in National Institutes of Health Publication No. 86-23, “Guide for the Care and Use of Laboratory Animals.”

For submissions containing animal use, proposals should briefly describe plans for Institutional Animal Care and Use Committee (IACUC) review and approval. Animal studies in the program will be expected to comply with the PHS Policy on Humane Care and Use of Laboratory Animals, available at <http://grants.nih.gov/grants/olaw/olaw.htm>.

All Recipients must receive approval by a DoD certified veterinarian, in addition to an IACUC approval. No animal studies may be conducted using DoD/DARPA funding until the USAMRMC Animal Care and Use Review Office (ACURO) or other appropriate DoD veterinary office(s) grant approval. As a part of this secondary review process, the Recipient will be required to complete and submit an ACURO Animal Use Appendix, which may be found at <https://mrmc.amedd.army.mil/AnimalAppendix.asp>

## **6.7 PUBLIC RELEASE OR DISSEMINATION OF INFORMATION**

The following provision will be incorporated into any resultant contract:

(a) There shall be no dissemination or publication, except within and between the Contractor and any subcontractors, of information developed under this contract or contained in the reports to be furnished pursuant to this contract without prior written approval of the DARPA Technical Information Officer (DARPA/TIO). All technical reports will be given proper review by appropriate authority to determine which Distribution Statement is to be applied prior to the initial distribution of these reports by the Contractor. Papers resulting from unclassified contracted fundamental research are exempt from prepublication controls and this review requirement, pursuant to DoD Instruction 5230.27 dated October 6, 1987.

(b) When submitting material for written approval for open publication as described in subparagraph (a) above, the Contractor must submit a request for public release request to the DARPA TIO and include the following information: 1) Document Information: document title, document author, short plain-language description of technology discussed in the material (approx 30 words), number of pages (or minutes of video) and document type (briefing, report, abstract, article, or paper); 2) Event Information: event type (conference, principle investigator meeting, article or paper), event date, desired date for DARPA's approval; 3) DARPA Sponsor: DARPA Program Manager, DARPA office, and contract number; and 4) Contractor's Information: POC name, e-mail and phone. Allow four weeks for processing; due dates under four weeks require a justification. Unusual electronic file formats may require additional processing time. Requests can be sent either via e-mail to [tio@darpa.mil](mailto:tio@darpa.mil) or via 3701 North Fairfax Drive, Arlington VA 22203-1714, telephone (571) 218-4235. Refer to [www.darpa.mil/tio](http://www.darpa.mil/tio) for information about DARPA's public release process.

## **6.8 EXPORT CONTROL**

Should this project develop beyond fundamental research (basic and applied research ordinarily published and shared broadly within the scientific community) with military or dual-use applications the following apply:

(1) The Contractor shall comply with all U. S. export control laws and regulations, including the International Traffic in Arms Regulations (ITAR), 22 CFR Parts 120 through 130, and the Export Administration Regulations (EAR), 15 CFR Parts 730 through 799, in the performance of this contract. In the absence of available license exemptions/exceptions, the Contractor shall be responsible for obtaining the appropriate licenses or other approvals, for obtaining the appropriate licenses or other approvals, if required, for exports of (including deemed exports) hardware, technical data, and software, or for the provision of technical assistance.

(2) The Contractor shall be responsible for obtaining export licenses, if required, before utilizing foreign persons in the performance of this contract, including instances where the work is to be performed on-site at any Government installation (whether in or outside the United States), where the foreign person will have access to export-controlled technologies, including technical data or software.

(3) The Contractor shall be responsible for all regulatory record keeping requirements associated with the use of licenses and license exemptions/exceptions.

(4) The Contractor shall be responsible for ensuring that the provisions of this clause apply to its subcontractors.

## **6.9 SUBCONTRACTING**

Pursuant to Section 8(d) of the Small Business Act (15 U.S.C. 637(d)), it is the policy of the Government to enable small business and small disadvantaged business concerns to be considered fairly as subcontractors to contractors performing work or rendering services as prime contractors or subcontractors under Government contracts, and to assure that prime contractors and subcontractors carry out this policy. Each proposer who submits a contract proposal and includes subcontractors is required to submit a subcontracting plan in accordance with FAR 19.702(a) (1) and (2) should do so with their proposal. The plan format is outlined in FAR 19.704.

## **6.10 REPORTING**

The number and types of reports will be specified in the award document, but will include as a minimum quarterly financial status reports. The reports shall be prepared and submitted in accordance with the procedures contained in the award document and mutually agreed on before award. Reports and briefing material will also be required as appropriate to document progress in accomplishing program metrics. A Final Report that summarizes the project and tasks will be required at the conclusion of the performance period for the award.

### **6.10.1 Central Contractor Registration (CCR)**

Selected proposers not already registered in the Central Contractor Registry (CCR) will be required to register in CCR prior to any award under this BAA. Information on CCR registration is available at <http://www.ccr.gov>.

### **6.10.2 Representations and Certifications**

In accordance with FAR 4.1201, prospective proposers shall complete electronic annual representations and certifications at <http://orca.bpn.gov>.

### **6.10.3 Wide Area Work Flow (WAWF)**

Unless using another approved electronic invoicing system, performers will be required to submit invoices for payment directly via the Internet/WAWF at <http://wawf.eb.mil>. Registration to WAWF will be required prior to any award under this BAA.

### **6.10.4 T-FIMS**

The award document for each proposal selected and funded will contain a mandatory requirement for four DARPA Quarterly Status Reports each year, one of which will be an annual project summary. These reports will be electronically submitted by each awardee under this BAA via the DARPA Technical – Financial Information Management System (T-FIMS). The T-FIMS URL and instructions will be furnished by the contracting agent upon award.

#### **6.11 AGENCY CONTACTS**

E-mail is the preferred method of contact.

Administrative, technical or contractual questions should be sent via e-mail to BAA08-58@darpa.mil. If e-mail is not available, fax questions to (703) 465-1070, Attention: DARPA-BAA-08-58. All requests must include the name, email address, and phone number of a point of contact.

Points of Contact:

The technical POC for this effort is Aaron Lazarus, PhD.

Fax: (709) 465-1070

Electronic mail: BAA08-58@darpa.mil

DARPA/STO

ATTN: DARPA-BAA-08-58

3701 North Fairfax Drive

Arlington, VA 22203-1714